

## **ABSTRACT**

### **METHOD AND APPARATUS FOR DETERMINING PLANT WATER CONTENT**

This invention is concerned with a method and plant-based apparatus to measure the water content within plants.. A metallic surface is implanted in any orientation within the plant. The total area of this surface within the plant is measured with a mechanical caliper or equivalent. The wetted area of this surface is obtained by means of a measurement of electrical capacitance at the interface between the surface and water in the plant. Plant water content is equal to the ratio of measured capacitance to measured surface area within the plant. The apparatus functions as a “water dipstick” in the same manner as an “oil dipstick” in an automobile. The surface is normally implanted in the petiole in the early season and remains there until harvest. Water content readings are then used to set irrigation schedules. The full season chronology of water content readings can be extrapolated from site to site and season to season for optimization of agricultural practice.